

## UTAH EMPLOYABILITY TO CAREERS PROGRAM IMPLEMENTATION PROJECT

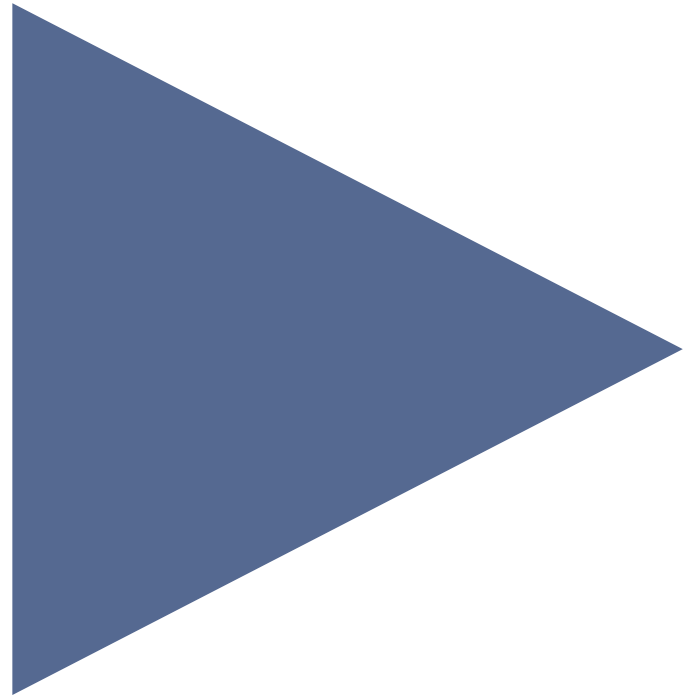
22 OCTOBER 2018

## ▶ KEY QUESTIONS FOR TODAY

We are seeking guidance from the E2C Board to inform next steps

- 1 Structure of rate card
- 2 Preferred program providers
- 3 Scope of work for fiscal intermediary

## ▶ I. RATE CARD OPPORTUNITY



## ► REMINDER: ILLUSTRATIVE RATE CARD

A rate card is a menu of outcomes government wishes to incentivize and the amount it is willing to pay each time a given outcome is achieved; providers can also be motivated to serve priority target populations via differentiated pricing

Metric	Price	
	Base	IGP
Accredited HS Diploma or Equivalent Attained	\$	\$\$
Enrolled in employability skills training program	\$	\$\$
Job Placement	\$\$	\$\$\$
Job Placement - <i>Sector Bonus</i>	\$	\$\$
6-Month Sustained Employment	\$\$	\$\$\$
12-Month Sustained Employment	\$\$\$	\$\$\$\$
12-Month Earnings Increase	\$\$	\$\$\$
Postsecondary Credential Attained	\$\$\$	\$\$\$\$
Postsecondary Credential Attained – <i>Sector Bonus</i>	\$	\$
<b>Maximum Possible Payment Per Individual</b>	<b>\$X</b>	<b>\$Y</b>

## ► REMINDER: WHEN ARE RATE CARDS USEFUL?

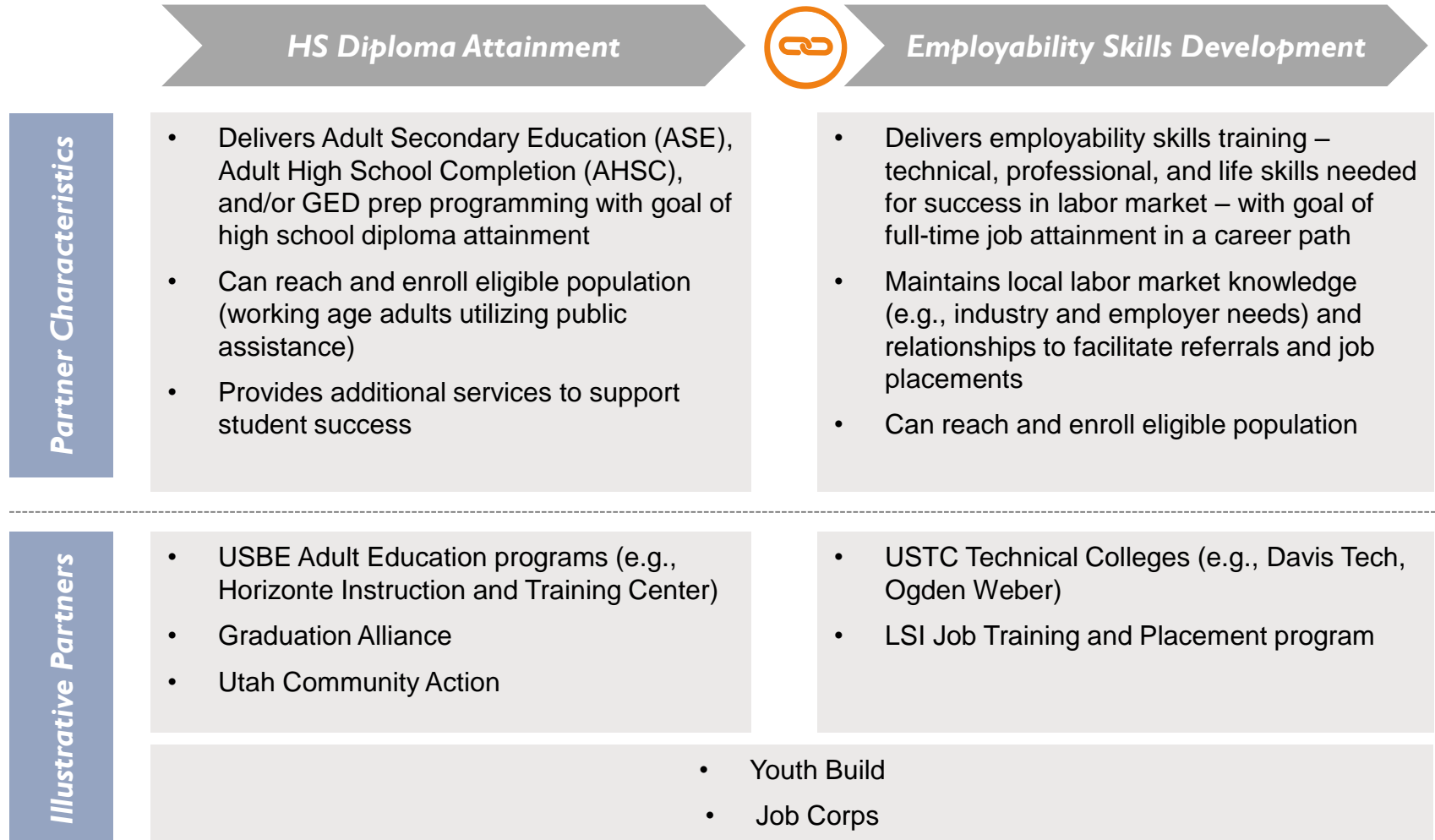
An outcomes rate card is a Pay for Success tool that can enable Utah to achieve desired outcomes nimbly and at greater scale

### Benefits of outcomes rate cards

- Flexibility to contract with **multiple providers**
- Ability to **respond to market feedback and performance results** to adjust pricing at regular intervals
- Capacity to **effect systems-level change** by encouraging shift toward outcomes orientation for an entire system of providers
- **Reduced development time** between contract award and launch of services
- Ability to **leverage strong existing data systems** to support outcome validation & payment
- Flexibility to **differentiate pricing for higher-risk** / higher cost to serve populations

## ▶ EXISTING PROVIDER LANDSCAPE

The E2C Program requires a combination of programming geared towards HS diploma attainment as well as employability skills development



## ► PROVIDER AND STAKEHOLDER INTERVIEWS

Over the past several weeks, we gathered informal input from several potential providers and other stakeholders

Type	Name	Organization/Team	Status
<b>DWS</b>	Liz Carver	Workforce Development, Program and Policy	Completed
	Melisa Stark	Workforce Development, Employer Initiatives; Talent Ready Utah	Completed
	Carrie Mayne	Workforce Research and Analysis; Utah Data Research Center	Completed
<b>Other State Agencies</b>	Brian Olmstead, Stephanie Patton, Danielle Pedersen	Utah State Board of Education, Adult Education	Completed
	Michael Bouwhuis, Jared Haines	Utah System of Technical Colleges	Completed
<b>Providers</b>	Gregg Rosann, Rebekah Richards	Graduation Alliance	Completed
	Melissa Freigang, Julie Fisher	LSI, Job Training and Placement	Completed
	Julia Branch	Youth Build Ogden-Weber Technical College	Completed
	Karissa Tanner, Kristie Moss	Job Corps: Clearfield, Weber Basin	Completed
	Patrice Dickson, Joni Clark	Utah Community Action	Completed
	Marci Flocken	Davis County Adult Education	Outreach Initiated
	Joshua Bell	SLC School District/Horizonte Instruction & Training Center	Completed
	Dina Nielsen	Davis Technical College	Completed
	Lisa Butler	Ogden-Weber Technical College	Completed

## ▶ TAKEAWAYS FROM PROVIDER INTERVIEWS

Provider types demonstrate varying strengths and challenges, with differing opportunities to incentivize outcomes

### I. Third Party Providers

- Potential to serve population segments facing significant barriers with a **comprehensive solution**
- Potential to **replicate innovative models from other geographies** that have demonstrated success

- Relatively **higher average cost** per individual served
- Existing providers demonstrate **limited existing footprint**

### II. Adult Ed Programs

- **Large existing participant base** with statewide reach
- **Potential for system-level change** by incentivizing outcomes orientation
- Relatively **lower average cost** per individual served

- Significant upfront investment may be required to develop **employability and job skills training**
- **Class schedules may limit access** for some

### III. UTech Colleges

- Well-developed **pathways to postsecondary credentials**
- **Responsive to local labor market** and employer needs
- Existing **partnerships with local Adult Ed** programs

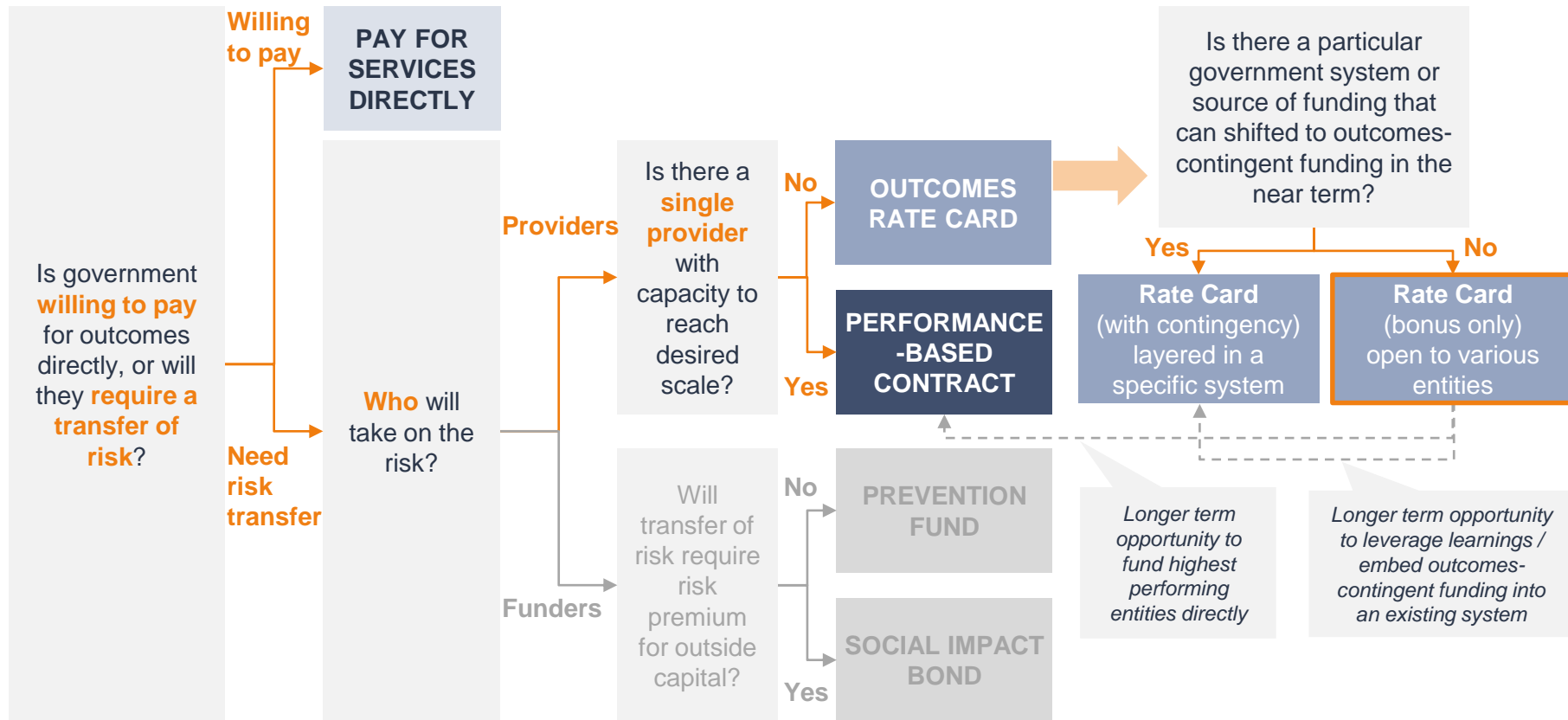
- Students without HSE and not Pell-eligible **must self-finance** study
- **Limited outreach targeting non-HSE** to date

*Further assessment needed to compare across providers on (i) potential for future performance; (ii) appetite for outcomes-contingent funding; (iii) program size and existing constraints to scale*



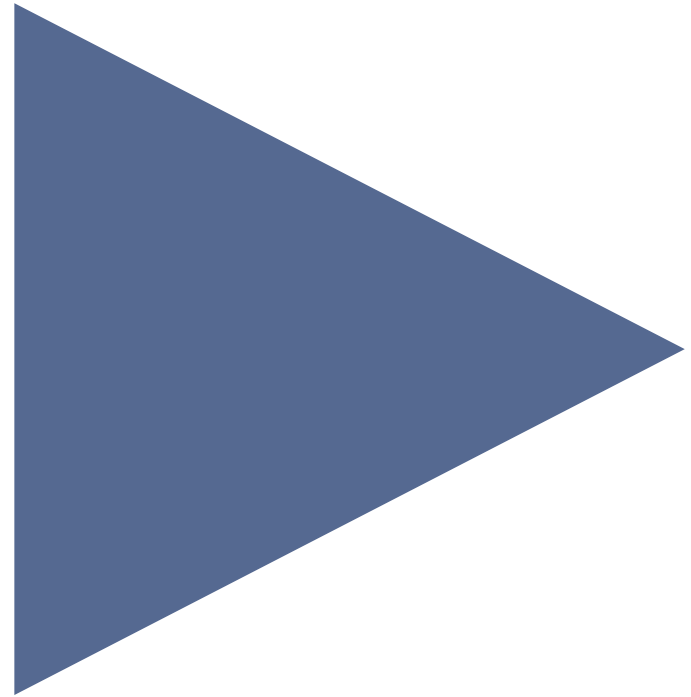
## ▶ OUTCOMES BASED FUNDING DESIGN DECISIONS

Given multiple possible avenues for success, an outcomes rate card can enable the E2C Board to contract with multiple providers to test solutions and reach scale quickly and nimbly



Note: Opportunity exists to include outside capital to risk-share with providers under rate card; to be determined based on working capital needs of providers

## ▶ 2. PROGRAM PROVIDERS



## ► HIGH SCHOOL DIPLOMA

Key Question: Which types of providers (e.g., diploma- or GED-oriented) is the E2C Program able and inclined to contract with?

### *63J-4-701 Definitions*

**(2) "Education, employability training, and workforce placement program"** means a pay-for-success program that helps adults earn a **high school diploma** and obtain a full-time job with benefits in a career path through integrated employability skills development.

**(9) "Performance outcome measure"** means an education or workforce placement outcome for an eligible participant, including **earning an accredited high school diploma**, employment placement, job retention, and wage advancement within a career path, which results in a demonstrated benefit to the state through increased tax revenue or lower state expenditures for public assistance programs.

## ▶ SECONDARY EDUCATION CREDENTIALS IN UTAH

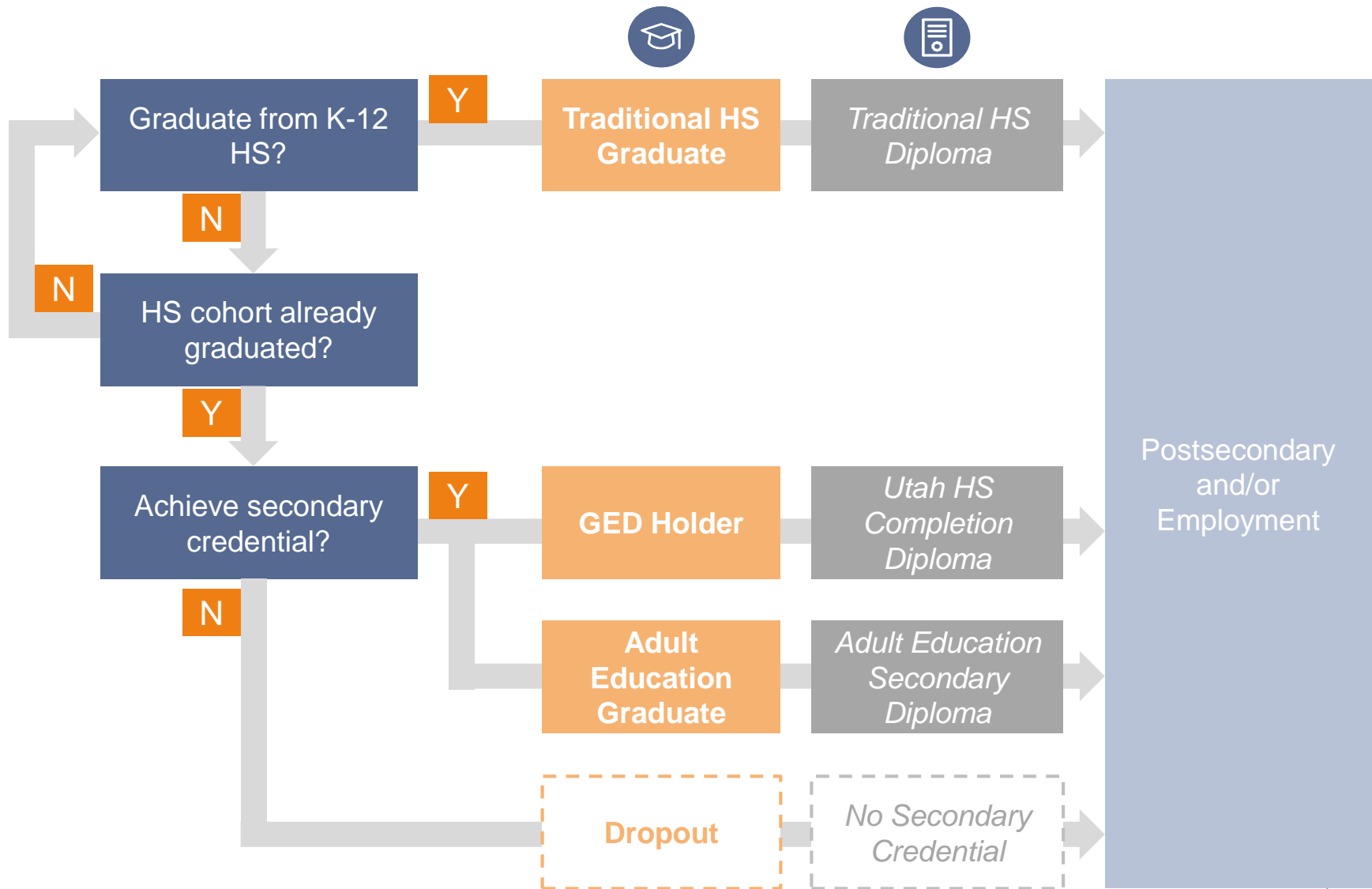
### Utah issues several types of secondary education diplomas

	Traditional HS Diploma	Utah HS Completion Diploma	Adult Education Secondary Diploma
Definition	Official document awarded by a Local Educational Agency (LEA) consistent with state and LEA graduation requirements (i.e., successful completion of required Carnegie units of instructions necessary for a high school diploma)	Diploma issued by the Board and distributed by a Board approved contractor to an individual who has passed all subject modules of a High School Equivalency (HSE) exam (i.e., GED)	Credential issued by school districts to adult education students who complete the Carnegie units of credit necessary for a high school diploma. An adult education diploma may not be upgraded or changed to a traditional, high school-specific diploma.
Eligibility	Students in grades 9-12 and “out-of-school youth” (individuals 16 to 19 years of age whose high school cohort has not graduated and who is no longer enrolled in a K-12 program of instruction)	Individual 16 years of age or older, not enrolled in a K-12 school, and not currently holding a secondary diploma	Individual 16 years of age or older who is beyond the age of compulsory school attendance, not enrolled in a K-12 school, and not currently holding a secondary diploma
Requirement	24 units of credit through course completion or through competency assessment	Successful passing of an HSE exam (a Board approved examination whose test modules are aligned with: (a) current high school core standards; and (b) adult education college and career readiness standards)	24 units of credit as defined by the adult education program (completed high school courses, adult education courses and vocational school classes count as credits)
Sources	1. <u>Rule R277-700. The Elementary and Secondary School General Core</u> ; 2. <u>Rule R277-705. Secondary School Completion and Diplomas</u>	1. <u>Rule R277-702. Procedures for the Utah High School Completion Diploma</u>	1. <u>Rule R277-733. Adult Education Programs</u> ; 2. <u>Adult Education Policies and Procedures, Tab U: Adult Education Definitions</u>

Note: An “alternate diploma” may be awarded by an LEA to a student with a significant cognitive disability who meets a set of graduation requirements. A diploma may also be issued by regionally accredited private institutions (outside the public education system).

## ▶ SECONDARY CREDENTIALING PATHWAYS

Each type of secondary education diploma is specific to a student pathway



## ► REVIEW OF EVIDENCE ON SECONDARY CREDENTIALS

Though suggestive, there remain gaps in the evidence base on outcomes linked to secondary credential options

### Key Findings

- Studies have shown that **traditional HS graduates** demonstrate substantially better postsecondary and employment outcomes than **dropouts who attain a GED credential** <sup>(1)</sup>
- These studies have also concluded that **GED holders** had comparably poor wages and earnings relative to permanent **dropouts** <sup>(1)</sup>
- Subsequent studies have shown that stratifying by students' **level of cognitive skill** when leaving HS demonstrates that there are **returns to GED attainment** – higher wages relative to dropouts, and comparable wages to HS graduates – when controlling for work experience and post-secondary education <sup>(2)(3)</sup>

### Key Gaps

- **Relevant Comparison:** There is a lack of evidence comparing outcomes for adult education graduates and GED holders
- **Collinearity of Variables:** Comparisons of long-term outcomes between students who did and did not dropout do not control for other correlated variables (e.g., non-cognitive qualitative abilities)
- **Age of Studies:** Most of the literature that examines this issue was published between 1993 and 2001. Major revisions were made to the GED exam in 2002 and 2014.
- **Target Population:** Most studies examine youth, specifically those around the age of high school graduation and several years after. The 30-50+ age demographic is not examined with respect to the returns of obtaining a GED certificate.

(1) Cameron and Heckman, "The Nonequivalence of High School Equivalents" (1993)

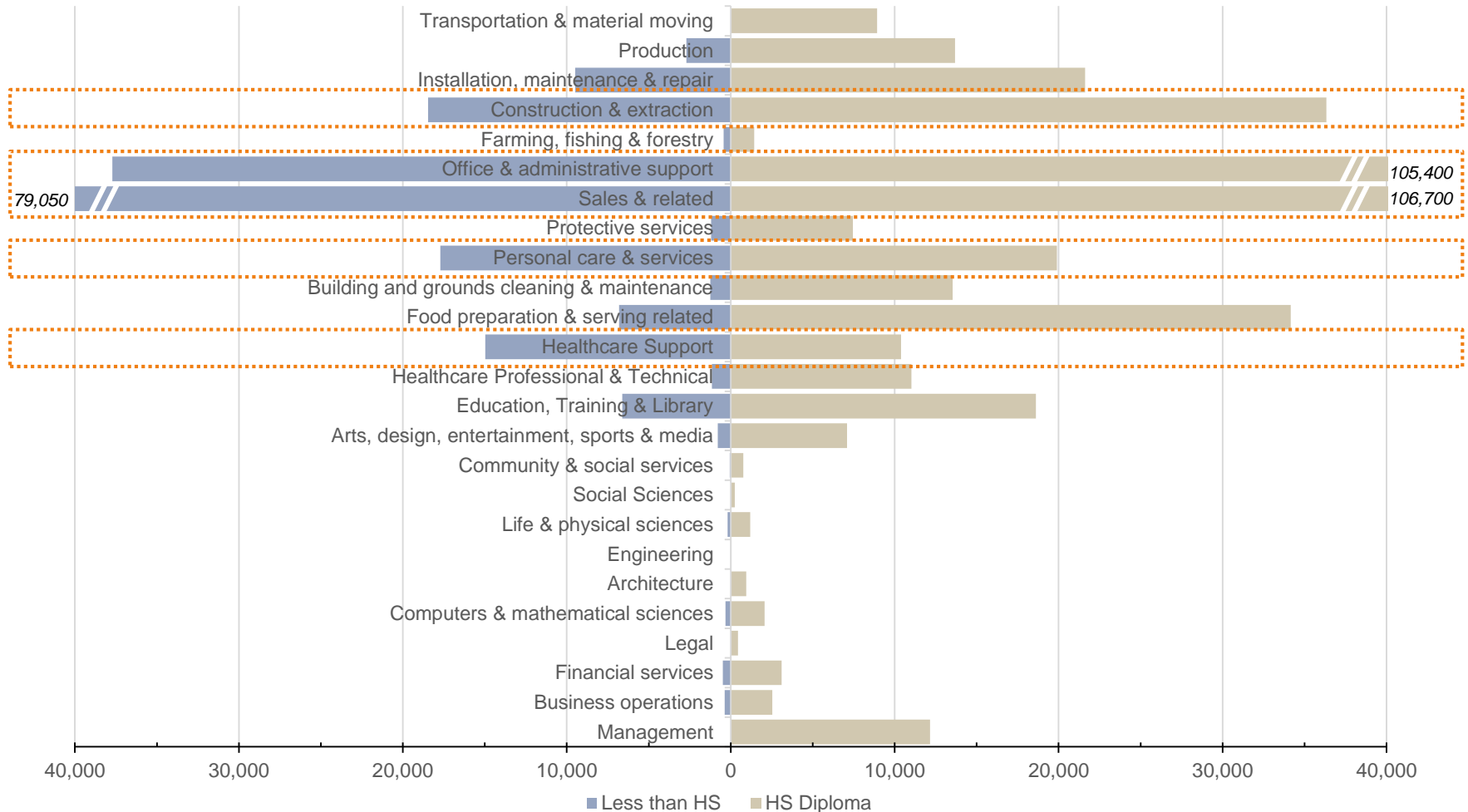
(2) Murnane, Willett, and Tyler, "Who Benefits from a GED? Evidence from High School and Beyond" (2000)

(3) Tyler, Murnane, and Willett, "Estimating The Labor Market Signaling Value of the GED" (2000)

## ► JOBS AND WAGES WITH VS. WITHOUT HS (1/2)

84% of jobs for adults without a HS diploma or equivalent are concentrated in five sectors

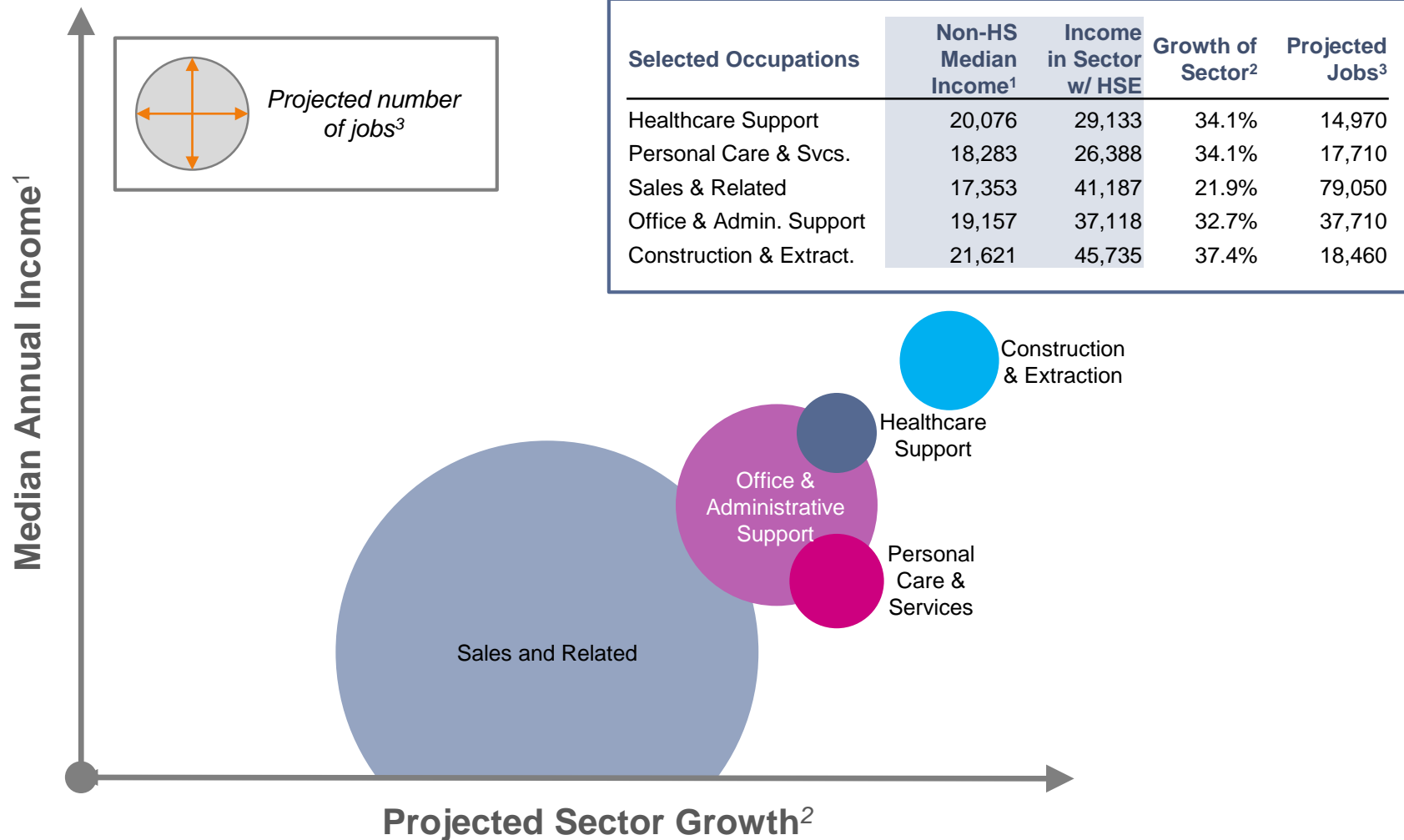
Projected Jobs in 2020 in Utah by Occupation and Education Level



Source: Center on Education and the Workforce, Georgetown Public Policy Institute, "Recovery: Job growth and education requirements through 2020: State report" (2013).

## ► JOBS AND WAGES WITH VS. WITHOUT HS (2/2)

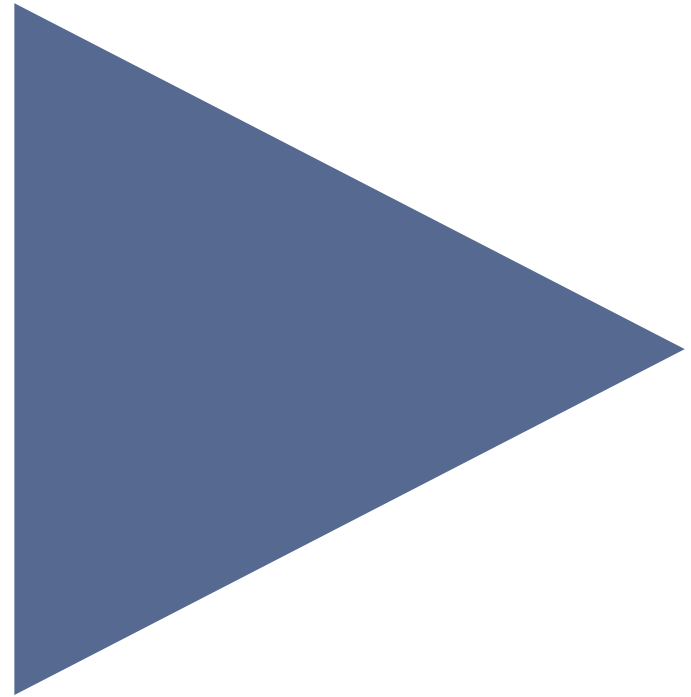
Despite availability and growth of jobs, median incomes are modest for adults without a high school diploma or equivalent



1. Median annual income for inexperienced worker; sectors evaluated range from \$17 – 46K; data from Utah DWS
2. Projected growth for sector overall (including jobs at all education levels) from 2014-2024; sectors evaluated range from 1 – 47% increase; data from Utah DWS
3. Projected jobs in 2020; illustrated occupations range from 15 – 38K jobs; data from Georgetown Public Policy Institute report



### ▶ 3. FISCAL INTERMEDIARY



## ► FISCAL INTERMEDIARY

Key Question: What is the scope of work for the fiscal intermediary, and what type of entity (e.g., non-profit foundation or for-profit bank) is the E2C Program able and inclined to contract with?

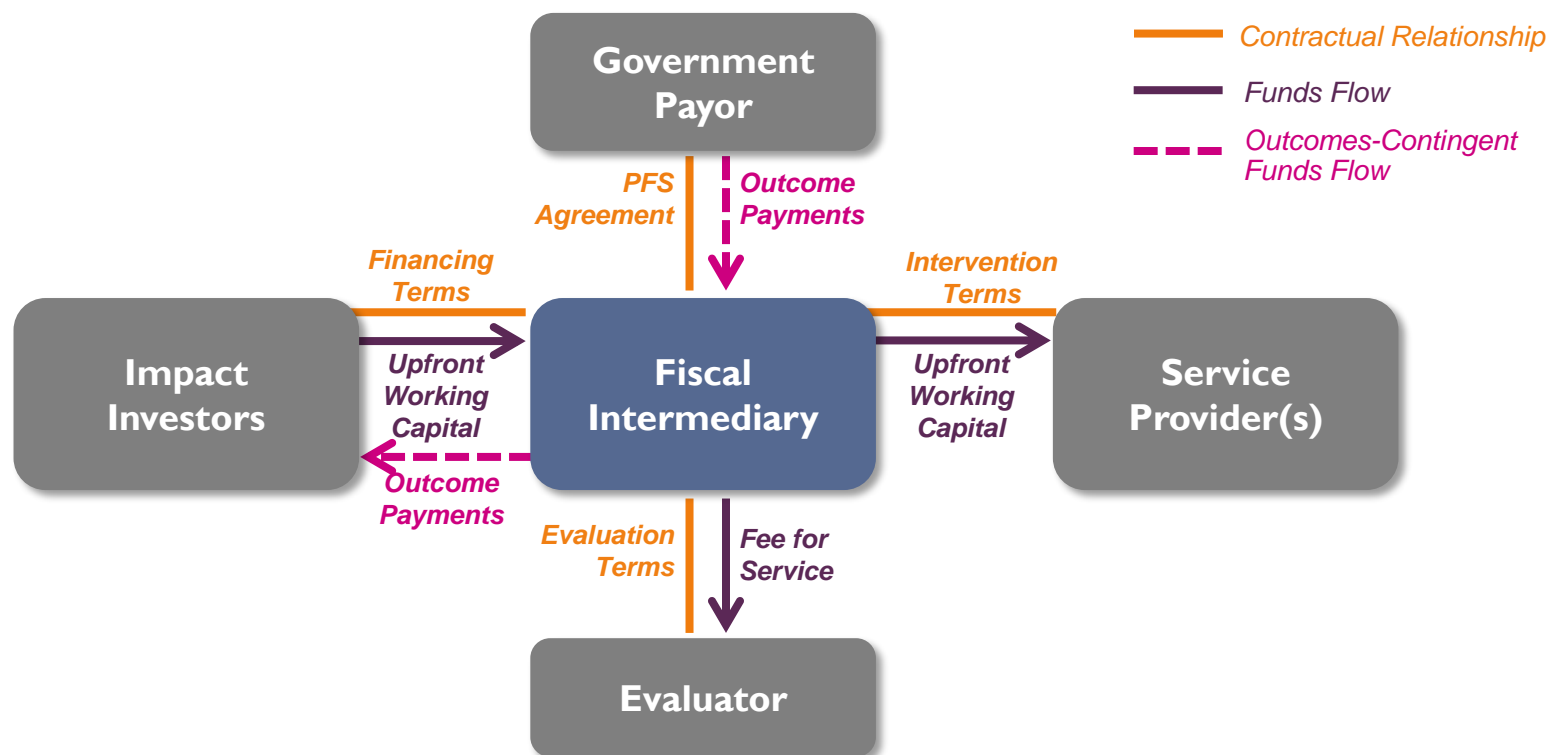
### *63J-4-701 Definitions*

**(7) "Fiscal intermediary"** means a **nonprofit community foundation** located in the state that establishes and manages charitable funds and that has the necessary experience to coordinate the funding and management of a results-based contract and related program.

**(12) "Results-based contract"** means a contract entered into between the board, a **fiscal intermediary**, and an eligible program provider that will result in repayment to the fiscal intermediary if certain performance outcome measures are achieved.

## ► THE ROLE OF THE FISCAL INTERMEDIARY IN PFS

A fiscal intermediary manages the cash flows and associated contracts for the PFS project



### **Prior Example in Utah**

The Salt Lake County REACH and Homes Not Jail Pay for Success Projects utilized the **Utah Community Foundation** as a fiscal intermediary to enable the county to "engage banks in lending without a potential pay-to-play conflict" by having the foundation establish a special purpose vehicle"<sup>1</sup>

<sup>1</sup> Mayor Ben McAdams, "Pay for Success as a Policy Tool" (MIT *Innovations*, Volume 11, Number 3/4), 2017.

## ► UNPACKING THE DEFINITION

Fiscal intermediary role can be broken down into various activities, which may require expertise from different entity types (e.g., non-profit foundation, for-profit bank)

1	Contract / Project Management	2	Fiscal Agent													
	<ul style="list-style-type: none"><li>▪ <b>Facilitate project oversight</b>, reporting and governance</li><li>▪ <b>Hold and manage contracts</b> with project partners (i.e., E2C Board, program providers, evaluator, investors)</li><li>▪ <b>Authorize payments</b> upon validation of success</li><li>▪ <b>Oversee performance management</b> (if needed)</li></ul>		<table><tr><th></th><th>Investor capital</th><th>No investor capital</th></tr><tr><td><b>A. Financial Management</b></td><td><ul style="list-style-type: none"><li>▪ <b>Request investor capital</b> and distribute to relevant project partners (i.e., program provider(s))</li></ul></td><td><ul style="list-style-type: none"><li>▪ <b>Establish and maintain bank accounts</b> to:<ul style="list-style-type: none"><li>• Hold and distribute outcome payments upon validation of success achieved</li><li>• Pay fees to project partners (e.g., evaluator)</li></ul></li></ul></td></tr><tr><td><b>B. Financial Reporting</b></td><td><ul style="list-style-type: none"><li>▪ <b>Generate investor-specific financial reporting</b> and allocate profits and losses to investor accounts</li><li>▪ <b>Provide tax inputs</b> to auditors/accountants for filing of tax returns</li></ul></td><td><ul style="list-style-type: none"><li>▪ <b>Generate relevant financial reporting</b> (e.g., for annual legislative report)</li></ul></td></tr><tr><td><b>C. Investor Communications</b></td><td><ul style="list-style-type: none"><li>▪ <b>Manage investor communications</b>, including periodic operational reporting, financial statements, audits, and tax statements</li></ul></td><td><ul style="list-style-type: none"><li>▪ N/A</li></ul></td></tr></table>		Investor capital	No investor capital	<b>A. Financial Management</b>	<ul style="list-style-type: none"><li>▪ <b>Request investor capital</b> and distribute to relevant project partners (i.e., program provider(s))</li></ul>	<ul style="list-style-type: none"><li>▪ <b>Establish and maintain bank accounts</b> to:<ul style="list-style-type: none"><li>• Hold and distribute outcome payments upon validation of success achieved</li><li>• Pay fees to project partners (e.g., evaluator)</li></ul></li></ul>	<b>B. Financial Reporting</b>	<ul style="list-style-type: none"><li>▪ <b>Generate investor-specific financial reporting</b> and allocate profits and losses to investor accounts</li><li>▪ <b>Provide tax inputs</b> to auditors/accountants for filing of tax returns</li></ul>	<ul style="list-style-type: none"><li>▪ <b>Generate relevant financial reporting</b> (e.g., for annual legislative report)</li></ul>	<b>C. Investor Communications</b>	<ul style="list-style-type: none"><li>▪ <b>Manage investor communications</b>, including periodic operational reporting, financial statements, audits, and tax statements</li></ul>	<ul style="list-style-type: none"><li>▪ N/A</li></ul>	
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## ► FOR DISCUSSION

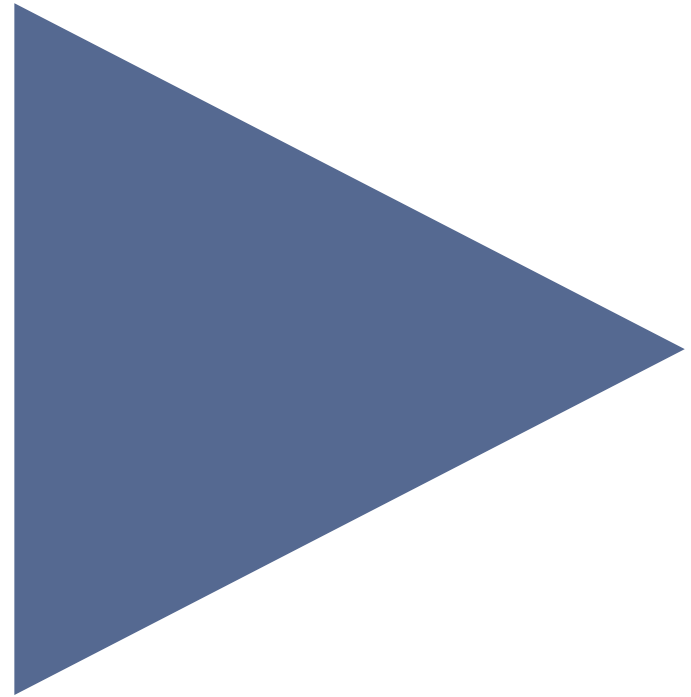
### *For consideration in advance of Board meeting*

1. For which of these activities would the E2C Board like to engage an external party to manage?
2. If no investors participate, would the E2C Board still want to engage a third party to create a financial account for the purposes of financial management of E2C activities?
  - Example scenario: If a rate card facilitates fund flows from E2C to other state entities, is a third-party account necessary to facilitate cash flows?

### *For future consideration*

3. If investors do participate, do non-profit foundations in Utah have the experience and infrastructure to conduct the financial management, reporting, and investor communications needed? Could a non-profit foundation sub-contract with a bank for that purpose?

## ▶ NEXT STEPS



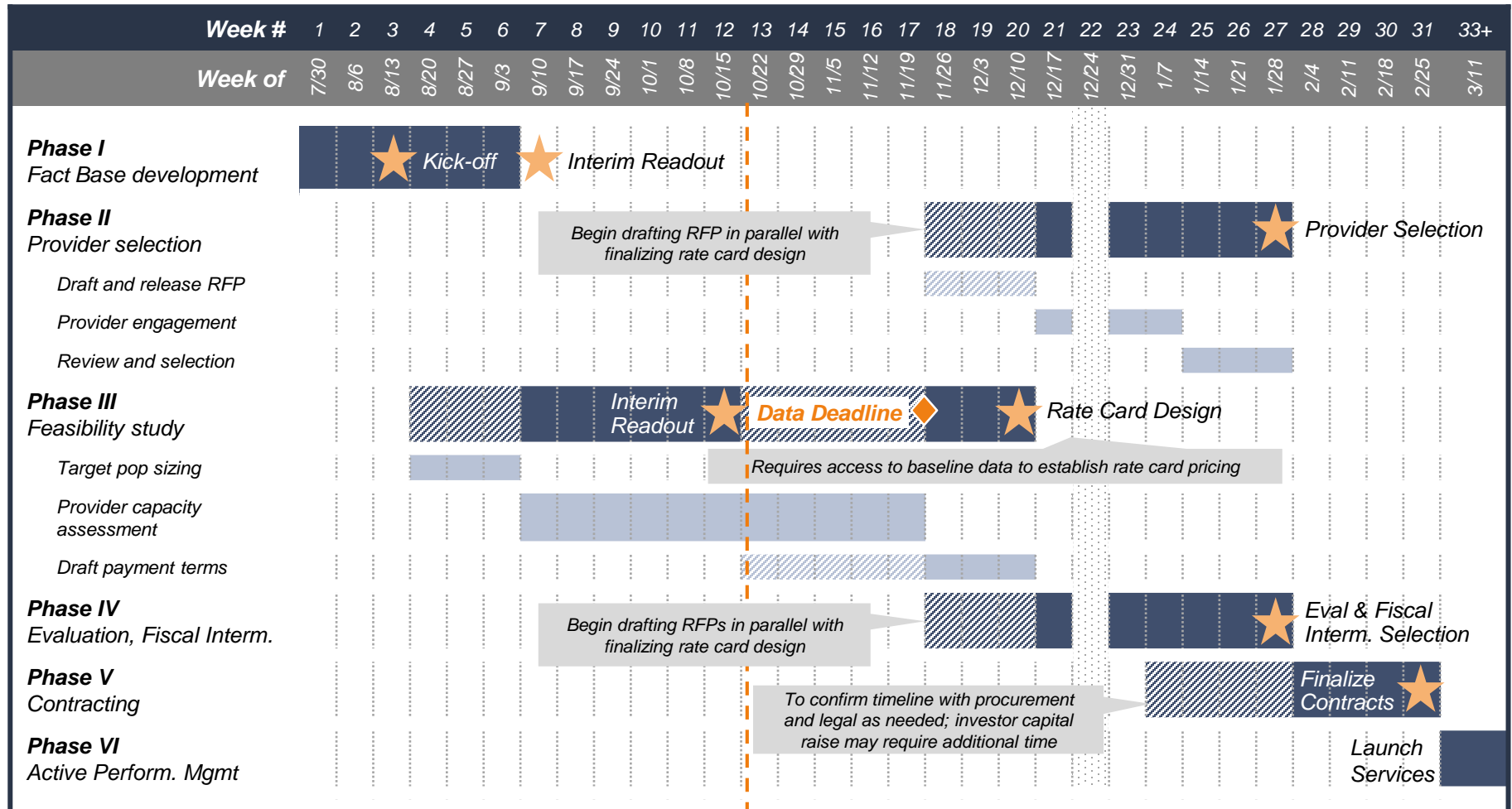
## ► KEY ACTIVITIES FOR NEXT PHASE OF WORK

We propose to pursue administrative data and provider data in parallel in order to complete rate card design (Phase 3), which will inform provider selection (Phase 2), and evaluator and fiscal intermediary selection (Phase 4)

	Phase 3	Phase 4	
	Rate Card Design	Evaluator	Fiscal Intermediary
Activities	<ul style="list-style-type: none"> <li>❑ Establish baseline outcomes for eligible population based on administrative data</li> <li>❑ Collect historical performance data from providers to inform anticipated effect size of impact and working capital needs, if any</li> <li>❑ Confirm max contract size (over what time period)</li> <li>❑ Confirm scale targets (number of participants over what time period)</li> <li>❑ Establish price per outcome</li> </ul>	<ul style="list-style-type: none"> <li>❑ Establish preliminary outcomes definitions</li> <li>❑ Articulate high-level measurement plan</li> <li>❑ Confirm available data source(s)</li> <li>❑ Identify potential eligible evaluators</li> <li>❑ Draft scope of work and scoring rubric for evaluator RFP</li> </ul>	<ul style="list-style-type: none"> <li>❑ Identify potential eligible fiscal intermediaries</li> <li>❑ Draft scope of work and scoring rubric for fiscal intermediary RFP</li> </ul>
Inputs Required	<ul style="list-style-type: none"> <li>❑ Data pull from USBE and DWS</li> <li>❑ E2C Board's guidance on provider mix</li> </ul>	<ul style="list-style-type: none"> <li>❑ Guidance on RFP process</li> </ul>	<ul style="list-style-type: none"> <li>❑ E2C Board's guidance on activities to be managed by external party</li> <li>❑ Guidance on RFP process</li> </ul>

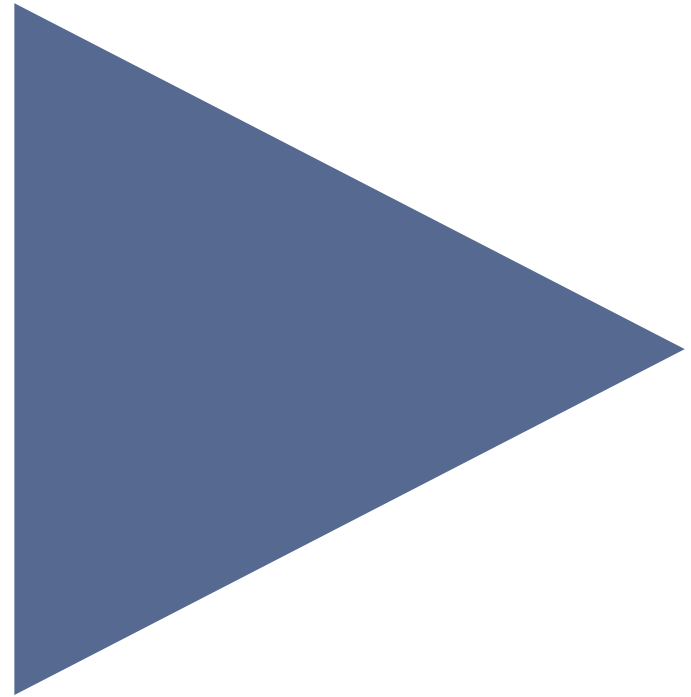
## ▶ UPDATED WORKPLAN

We have developed an ambitious workplan which is contingent on accessing critical administrative data





## ▶ REFERENCE



## ▶ WHEN ARE SOCIAL IMPACT BONDS USEFUL?

A Social Impact Bond is a Pay for Success tool that enables a proven service provider to scale services over multiple years, with private investor capital that is repaid (plus a risk premium) by a government payor if outcomes are achieved

*Success Factors:*

<b>Defined Target Population</b>	<i>Underserved, large-scale population, with adequate demand for intervention</i>
<b>Codified Program Model</b>	<i>Well-codified program model with fidelity monitoring</i>
<b>Demonstrated Impact</b>	<i>Evidence base and data demonstrate meaningful impact on key outcomes</i>
<b>Scalable Service Provider</b>	<i>High-quality provider with existing presence and capacity to scale</i>
<b>Positive ROI</b>	<i>Clear link to public-sector benefits (economic and community benefits) within reasonable timeframe</i>
<b>Payor and Investor Interest</b>	<i>Outcomes attract civic and/or commercial support</i>

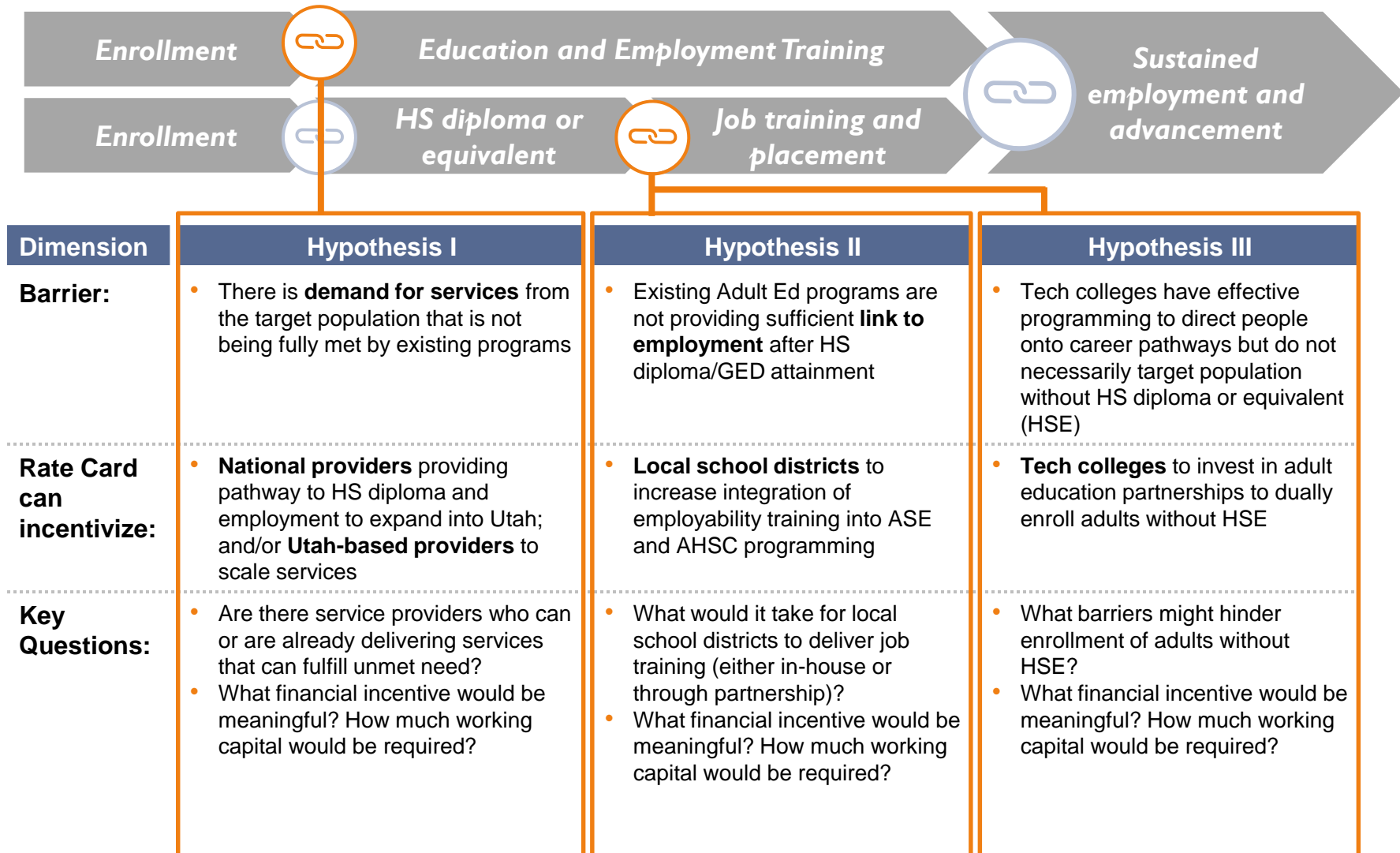
## ▶ COMPARING OUTCOMES-FOCUSED TOOLS

Social Impact Bonds (SIB) and outcomes rate cards are examples of Pay for Success tools, with some common and some differentiating features

	Outcomes rate card PFS	Traditional SIB/PFS	Performance- based contract
	● Often ● Sometimes ○ Rarely		
Outcomes-based contracting	●	●	●
Government sets outcomes & prices before procurement	●	○	●
Ability to contract with multiple providers	●	○	●
Financed by outside investor capital	●	●	○
Potential to reach population-level scale	●	○	●
Outcomes measured by academic evaluation	○	●	○

## ► REMINDER: OUR PRELIMINARY RATE CARD HYPOTHESES

A rate card can be applied to various entities or systems to address key barriers



## THEMES FROM PROVIDER INTERVIEWS

### Adult Ed

- ❖ **Target Population:** Individuals whose high school cohorts already have graduated
- ❖ **Program:** Most widely established HS completion/GED prep provider
- ❖ **Limited Job Training:** Employability skills integrated into educational study, to a limited degree
- ❖ **Referral Mix:** Strong natural pipeline for those still in school and struggling, but awareness and referral for those out of school is challenging
- ❖ **Low Average Cost:** Cost to serve per student is ~\$800

### Tech College

- ❖ **Target Population:** Primarily those with HSE credentials, though co-enrollment and entrance testing are also options for those without
- ❖ **Strong Connection to Labor Market:** Occupational training is primary focus in addition to creating relationships and feedback loops with employers
- ❖ **Program Funding:** State funding and student tuition (often financed by federal Pell grants, which require HSE)
- ❖ **Medium Average Cost:** Cost to serve per student is ~\$2,500

### Third Party

- ❖ **Target Population:** Some providers focus on youth population (16-24 years) while others are open-ended
- ❖ **Integrated Program:** Providers target both HS diploma/GED attainment and employability training and job placement
- ❖ **Unclear Expansion:** Scalability and path to expansion may be limited for various reasons
- ❖ **Referral Challenges:** Awareness and an adequate referral pipeline is cited as a program challenge
- ❖ **High Average Cost:** Cost to serve per person ranges from ~\$8-30k

## ► SUMMARY OF EVIDENCE REVIEW ON SECONDARY CREDENTIALS

While the traditional high school graduate demonstrates better outcomes than GED holders, lower-skilled dropouts see meaningful returns to earnings from obtaining a GED

	Postsecondary Education (PSE) Outcomes	Employment Outcomes
Low Skill	<ul style="list-style-type: none"> <li>Existing literature does not examine the effects of a GED vs. high school diploma on postsecondary education specifically for the low skill student group</li> </ul>	<ul style="list-style-type: none"> <li>Female and male <b>GED holders earn 25% and 36% more</b> than comparably low-skilled dropouts<sup>(2)(3)(4)</sup></li> <li>White <b>GED holders earn 10-19% more</b> than comparable non-GED holders who scored similarly on the exam (on the margin of passing, in states with different passing standards)<sup>(5)</sup></li> <li>Among those with low skills, there is <b>no statistically significant difference in earnings at age 27 between traditional high school graduates</b> and those who graduated 11<sup>th</sup> grade and subsequently obtained a GED<sup>(2)</sup></li> </ul>
Skill-Agnostic	<ul style="list-style-type: none"> <li>At an aggregate level, only 16% of GED holders attend a 4-year college vs. 30% of HS graduates<sup>(1)</sup></li> <li>Only 11% of GED holders complete more than 1 year of PSE vs. 58% of HS graduates<sup>(2)</sup></li> <li>However, for each year of PSE completed, the increased effect on earnings is similar for both GED holders and HS graduates<sup>(2)</sup></li> </ul>	<ul style="list-style-type: none"> <li>At an aggregate level, GED holders earn lower hourly wages and work fewer hours than traditional HS graduates<sup>(1)</sup></li> <li>GED holders have comparably poor wages and earnings relative to dropouts<sup>(1)</sup></li> <li>HS graduates earn 26% more than GED recipients and 42% more than dropouts after the 9th grade<sup>(2)</sup></li> </ul>

Note: Low skill is approximated by some studies based on test scores in the tenth grade, with those in the bottom quartile defined as low skill.

(1) Cameron and Heckman, "The Nonequivalence of High School Equivalents" (1993)

(2) Murnane, Willett, and Tyler, "Who Benefits from a GED? Evidence from High School and Beyond" (2000)

(3) Tyler, Murnane, and Willett, "Who Benefits from a GED? Evidence for Females from High School and Beyond" (2000)

(4) Boudette, "Second Chance Strategies for Women Who Drop Out of School" (2000)

(5) Tyler, Murnane, and Willett, "Estimating The Labor Market Signaling Value of the GED" (2000)

## EVIDENCE BASE ON SECONDARY CREDENTIALS (1/2)

Title	Authors	Pub. year	Data Set	Sample size	Dependent Variable(s) Evaluated	Summary of Findings
The Nonequivalence of High School Equivalents	Stephen Cameron & James Heckman	1993	National Longitudinal Survey of Youth (NLSY)	4,837 male youths	Wages and Hours Worked at age 25 and 28	<b>GED recipients are statistically indistinguishable from high school dropouts</b> ( $p$ -val 0.57) <sup>(1)</sup> in terms of their hourly wages and hours worked and have lower wages and hours worked than traditional high school graduates ( $p$ -val 0.05) <sup>(1)</sup>
Who Benefits from a GED? Evidence from High School and Beyond	Murnane, Willett, and Tyler	2000	High School and Beyond Data Base (HS&B)	4,216 male youths	Annual Earnings at age 27	<b>For low skill male students<sup>(2)</sup>, GED recipients earn 36 percent higher earnings at age 27 vs. dropouts</b> ( $p$ -val <0.01). No effect for dropouts who left school with higher skills ( $p$ -val <0.01)  Without bifurcating skill levels, HS graduates earned 26% more than GED recipients and 42% more than dropouts after the 9 <sup>th</sup> grade, confirming the results from Cameron & Heckman 1993
"Who Benefits from a GED? Evidence for Females from High School and Beyond"	Tyler, Murnane, and Willett	2000	High School and Beyond Data Base (HS&B)	4,785 female youths	Annual Earnings at age 27	<b>For low skill female students<sup>(2)</sup>, GED recipients earn 25 percent higher earnings at age 27 vs. dropouts</b> ( $p$ -val 0.05). No effect for dropouts who left school with higher skills

1. Cameron and Heckman, "The Nonequivalence of High School Equivalents" (1993) – Table 10

2. Low skill is approximated based on test scores in the tenth grade, with those in the bottom quartile defined as low skill

## ▶ EVIDENCE BASE ON SECONDARY CREDENTIALS (2/2)

Title	Authors	Pub. year	Data Set	Sample size	Dependent Variable(s) Evaluated	Summary of Findings
Second Chance Strategies for Women Who Drop Out of School	Boudett	2000	National Longitudinal Survey of Youth (NLSY)	689 female dropout youths	Annual Earnings	Female dropouts with <b>GED recipients earn 25 percent higher earnings vs. dropouts</b> without the credential ( $p$ -val $<0.01$ ); Obtaining the GED along with a year of off-the-job training <sup>(1)</sup> or college represents a 50% increase in earnings vs. dropouts ( $p$ -val $<0.01$ )
Estimating The Labor Market Signaling Value of the GED	Tyler, Murnane, Willett	2000	Administrative data from the States of NY, CT, FL, and Social Security Taxable Earnings data		Annual Earnings	<b>GED effect of 10-19 percent higher earnings five years after obtaining a GED for white dropouts on the margin of passing the GED exams</b> , relative to white dropouts with equal, but non-passing scores (due to inter-state differences in the passing standard) ( $p$ -val $<0.01$ ). No measured effects for non-white dropouts on the margin of passing

1. Off-the-job training is defined as “training offered by proprietary institutions (beauty and secretarial schools) and those programs provided by government agencies (such as the Job Corps, and the Youth Conservation Corps)”